A Review on Automatic Body Sanitizer for personal hygiene

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Abstract — This project is related to the hygiene of people who work with organisations who are not supposed to be at home at this time of pandemic. It is the project where one can maintain his/her proper hygiene and prevention of being sick of any disease (Mainly COVID-19). This automatic body sanitizer works in the form of spray and sanitizes the whole body including clothes, shoes, watches, handbags etc.

Waterless alcohol-based sanitizers are an increasingly popular method of hygiene and help prevent hospital-acquired infection (HAI). Whether hands sanitizer dispensers (HSDs) may themselves harbor pathogens or act as fomites has not been reported. All HSDs in the surgical intensive care unit of an urban teaching hospital were cultured at three sites: The dispenser lever, the rear underside, and the area surrounding the dispensing nozzle. All HSDs yielded one or more bacterial species, including commensal skin flora and enteric gram-negative bacilli. Colonization was greatest on the lever, where there is direct hand contact. Hand sanitizer dispensers can become contaminated with pathogens that cause HAI and thus are potential fomites.

Index Terms: -Arduino chipset, Toggle Switches, dual pump of 8.08bar pressures, regulator, cutoff machine, welding machine

I. INTRODUCTION

This automatic sanitizing machine is very useful at more crowds places like collages, offices, malls etc. As this machine work on "Walk through & get sanitized" Process it is just needed to be places at main entry of any campus or building & it'll sanitize everyone who'll pass through. It's the need of today's time to avoid viruses like COVID corona virus.It is a cost efficient and bulk process-able model with refill and use option.It is been tested at VGU & VIT Campus and as result it can sanitize 5 to 8 peoples per minute. Simple but effective example of bulk sanitization machines. Aim behind making this machine was reducing the cost and increasing the availability. It is more reliable because it sanitize whole body at once & it is a completely "Touch Free" (Automatic Process).

II. AIM AND OBJECTIVE

2.1 Aim of the project

Aim of the Project is related to the hygiene of people who work with organisations who are not supposed to be at home at this time of pandemic. It is the project where one can maintain his/her proper hygiene and prevention of being sick of any disease (Mainly COVID-19). This automatic body sanitizer works in the form of spray and sanitizes the whole body including clothes, shoes, watches, handbags etc.

2.2 Objective of the project

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- This is based on principal of FARADAY'S LAW OF ELECTROMAGNETIC INDUCTION.
- The spraying is done with the help of pump which is present in this project.
- The pumps used here creates a pressure of 8.08 bar for the spraying.
- Pumps use different energy sources for rotating its compressor & exclusive of a driving force of the air.
- In this project Arduino is used for creating a time slot of 10 seconds. Arduino is a series of graphics processing unit (GPU) . The programming is done using C programming language
- Spray liquid is converted into droplets, it is achieved by using various forms of energies like Kinetic Energy and Bernoulli Equation such as Hydraulic, gaseous and compressor and centrifugal are utilized in this process
- In this a person has to stand on the platform of the machine and press the switch to sanitizes his/ her whole body as well as the clothes, handbags ,watches ,shoes ,etc.
- The duration of spraying is set for 10 Seconds(approx..) by that it only spray the sanitizer for 10seconds.
- There is a nozzle which is present on the top of the frame from which sanitizer is sprayed in the form of mist which sanitizes the body/object.

III. PROPOSED WORK

In this project we are going to design a Structure for dispensing sanitizer from the nozzle in which a person stand and sanitizes his/her body with all the accessories.

IV. DIAGRAM

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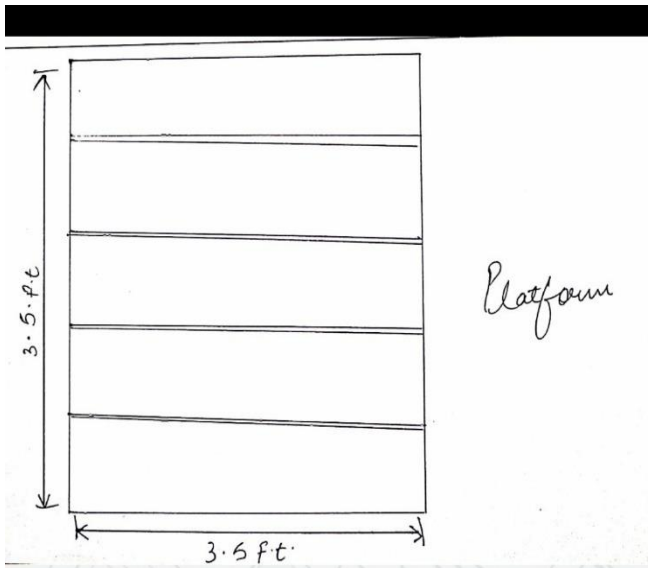

Fig.1.Diagram

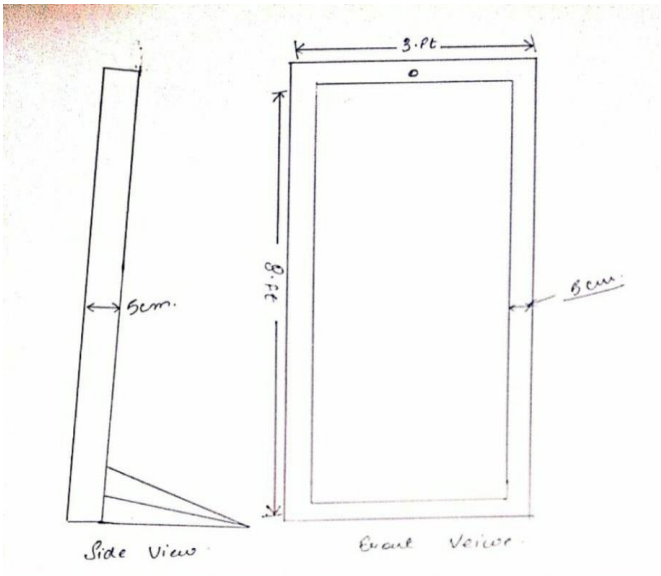

Fig2. Diagram

V. CONCLUSIONS

Strategies for preventing transmission of the disease include maintaining overall good personal hygiene, washing hands, avoiding touching the eyes, nose, or mouth with unwashed hands, and coughing or sneezing into a tissue, and putting the tissue directly into a waste container. Those who may already have the infection have been advised to wear a surgical mask in public. Physical distancing measures are also recommended to prevent transmission Health care providers taking care of someone who may be infected are recommended to use standard precautions, contact precautions, and eye protection..

So in order to serve the country and the world we initiated this project so that everyone can be hygienic and also it is now a days necessary to ensure that every person who enters the institute's premises to be hygienic. And this machine helps to ensure that.

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REFERENCES

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Mr. Vidhan Sharma is a student of engineering in Department of Mechanical Engineering at VIVEKANANDA INSTITUTE OF TECHNOLOGY, JAIPUR. He is a president of entrepreneurship cell of the college. He also organised various events in college like fests, startup bootcamps, etc

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